


University of Bahrain  
College of Information Technology  
Department of Computer Science  
Semester II, 2015-2016  
ITCS315 - Human Computer Interaction

**Midterm Exam**  
**FORM A**

Date: 11/4/2016

Time: 08:00 AM - 9:15 AM

STUDENT NAME	
STUDENT ID #	
SERIAL #	

**NOTE: THERE ARE (7) PAGES IN THIS TEST**  
**WRITE ONLY ONE SOLUTION FOR EACH QUESTION**

QUESTION #	MARKS		COMMENTS
1	10	10	
2	17	17	
3	23	19	
TOTAL	50	46	

**Question 1 [10 Points]**

**Circle the letter of the best correct choice in each of the following:**

1. The use of low color contrast
  - a. makes relevant parts in the interface more visible.
  - b. can be used to provide information to the user about what has been done.
  - c. makes the interface more engaging.
  - ☒ d. can be used to signal to the user that the operation is off.
  
2. Understanding the problem space involves
  - a. understanding the technology to be used.
  - b. understanding the design principles to be used.
  - ☒ c. understanding the current user experience and how to change it.
  - d. understanding how to calculate the cost of the project.
  
3. Natural language processing and speech recognition are used to:
  - a. instruct a system and tell what to do.
  - ☒ b. have conversational user interface.
  - c. manipulate objects directly.
  - d. maintain exploring interfaces.
  
4. A mental model is
  - a. a design technique.
  - b. an emotional framework.
  - ☒ c. the knowledge of the user about how the system works.
  - d. the knowledge of the designer about how the system works.
  
5. Cognitive processes include
  - a. usability and user experience goals.
  - ☒ b. attention, perception, and learning.
  - c. direct manipulation and instructing.
  - d. collaborative systems.



Question 1 (Continue)

10

Circle the letter of the best correct choice in each of the following:

6. BiReality systems :

- ☒ a. allow people to feel as they were present in the other location.
- b. best to be used by technophobes.
- c. makes users feel more at ease and comfortable.
- d. facilitate perception and understanding the main concepts easily.

7. Notification Systems

- a. do not support work coordination.
- b. should be disabled in collaborative environment.
- c. are used to support an easy search.
- ☒ d. are used to support awareness.

8. Mac Happy and Sad icons are examples of

- ☒ a. expressive interface.
- b. friendly interface.
- c. frustrating interface.
- d. warning messages.

9. Constructive guidance in error messages is to:

- a. explain the faults of the users.
- ☒ b. indicate what users need to do.
- c. include context sensitive help.
- d. make the message as general as possible.

10. Boundaries and Sound are two interface design techniques that can be used to

- a. support better perception of the interface.
- b. improve long term memory.
- ☒ c. capture user attention.
- d. support the user in decision making .

(17) usability, consistency, constrain, affordance

## Question 2 [17 Points]

[1] [5 points] Explain any two design principles and provide examples.

(6) [1] Consistency

The design of the system should be consistent, it should be consistent with the device ~~or~~ user interface guidelines, and consistent with other applications and similar systems, and consistent with its own which means use similar designs with similar operations.

Exs: for operations approximation use control + the initial of the operation Ctrl + C for copy, Ctrl + S for Save

[2] Constraints

use to limits the options user can chose, this makes the system easier to use and minimize the errors.

Exs: multi-page stepping, low color contrast, pagination, cursor.

(5) [2] [5 points] Explain how the multi-store model of memory processing can support the design of file management system.

File management system aims to solve the very popular problem ~~or~~ in saving and organizing the many files, images, docs, videos files, ... the user have.

it is based on the combination of using the recognition and recall in the design of the system.

by applying the colors in saving files, search box, history list, labels, borders, grouping.

This helps to gain attention which helps the memory processing to move from ~~sensory to short-term~~ short-term to long-term memory.



② [3] [2 points] Give one example to show how conversation rules differ in face-to-face conversation and in remote conversation in your choice of social media application. Specify the social media application name.

in face to face, the conversation rules are joint greeting, turn taking: listen and don't interrupt, Farewell Practice: ~~as~~ it can be explicit and implicit like looking to watch, and break-down: interrupt when someone say something not clear or misunderstood.

However, in social media - remote conversation, not all these rules are applied always. like in Whatsapp to send message you just send it without having always to do greeting, and you don't need Farewell Practice to leave usually.

③ [4] [5 points] Explain the similarity and differences between Ortony Emotional Design Model and Norman Emotional Design Model.

- Norman and Ortony model are both emotions model, that explains the effect on emotions in the way user interact with the system; The positive effect when he is happy, and the bad effect when he is not

- Ortony Emotional design model: ~~the~~

divides ~~the~~ into three designs: one that describe that making design good leads to feeling good (visceral design), another that explains the usability affect of the product (behavioral design), and the third which is the ~~reflex~~ reflective design, takes into account the cultural aspects.

- Norman Emotional Design model:

attractive things work better: this model tells the effect of emotions in users actions by telling that when users are relaxed and happy they are tolerant, don't look on minor problems and be more creative. However, when users are frustrated or angry, they will be less ~~tolerant~~ tolerance and less focused (narrow focus) ✓



Support shopping - efficient effective easy to use easily to learn how to use safe utility

19

### Question 3 [23 Points]

(8) [1] [8 points] identify the four most important usability goals related to the interaction design of the online shopping website amazon.com and explain why those usability goals are important, then **develop and write one question for each** usability goal to be used to evaluate the usability goal.

[1] efficient : it do what it supposed to do , it is important in the Website to allow users to users to search efficiently in the different categories of the items available .

Q : Do you find ~~the~~ what you are looking for easily ?

[2] Safe to use : ~~protect~~ protect users from dangerous or undesirable situations , it is extremely important to save users private-credit card details .

Q : Do you trust the website with your credit card private data ?

[3] effective : it supports the user in doing tasks . it is important to help the user in the process of purchasing the products to let him comfortable and encourage him to continue using the website .

Q : Is adding items to ~~a~~ shopping card good functionality ~~for~~ in helping you through your purchase process ?

[4] easy to use : the user can learn to use it by himself , by exploring the website . It is important because the website is globally used by all types of people around the world , many of them ~~these~~ are novices in using computers .

Q : Did you need help in using the website ?

(4) [2] [4 points] **What types** of interaction are used to interact with the online shopping website amazon.com. **Explain** how interactions are done and **give examples**.

[1] instructing : giving commands to the system . like instructing it to add the item use to the cart .

[2] Manipulating : the user can use the mouse to directly drag the item to place it in the shopping cart . If he is using tablet or smart phone then he can't direct manipulating in zooming in the website or items images .

[3] exploring : the <sup>country</sup> location is specified directly by the website .

[3] [3 points] Explain one persuasive technique that is used in the online shopping website amazon.com and its purpose.

①

X (Pop-up messages that shows recommendations)

notifications to clients about problems in sending the items X

[4] [4 points] Explain one metaphor to be used for each of the following (specify the metaphor name and discuss why it can be used as a metaphor):

④

- a. Smartphone map application.
- b. To-do List application.

a. using <sup>bus/metro</sup> ~~bus~~ icons to indicate the locations of bus and metro stations, using this familiar icons helps user to understand the system map easily.

b. To-do list application: using traffic light colors - Red for Critical tasks to do, yellow for tasks that can be delayed, and green for tasks that are done.   
 v. good

[5] [2 points] Write one desirable user experience related to the interaction with the Online dictionary marriam-webster website. Explain why it is related and important then provide an example.

②

helpful: The online dictionary website provides an easy and very helpful design to search for meaning for all vocabulary, it shows many information other than the meaning like the synonyms which is very helpful especially for people who are learning the language.

[6] [2 points] Write one undesirable user experience related to the interaction with Online dictionary marriam-webster website. Explain why it is related and then provide an example.

①